Docket No.: M4065.1009/P1009
(PATENT)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Kristy A. Campbell et al.

Application No.: 10/766,010

Confirmation No.:

Filed: January 29, 2004

Art Unit: N/A

For: SIMULTANEOUS READ CIRCUIT FOR

MULTIPLE MEMORY CELLS

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed within three months of the U.S. filing date (37 C.F.R. § 1.97(b)(1)). A copy of each reference on the PTO/SB/08 is attached. This Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98 and the Examiner is respectfully requested to consider the listed references.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 C.F.R. § 1.56(a) exists. In accordance with 37 C.F.R. §1.97(h), the filing of this Information Disclosure statement shall not be

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The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 04-1073, under Order No. M4065.1009/P1009. A duplicate copy of this paper is enclosed.

Dated: March 29, 2004

Respectfully submitted,

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|-----------------------------------|---------------------------------|----|-----------|------------------------|--------------------|--|
| | | | | Application Number | 10/766,010 | |
| INFORMATION DISCLOSURE | | | | Filing Date | January 29, 2004 | |
| S | STATEMENT BY APPLICANT | | | First Named Inventor | Kristy A. Campbell | |
| (Use as many sheets as necessary) | | | | Art Unit | N/A | |
| | | | ecessary) | Examiner Name | Not Yet Assigned | |
| Sheet | 1 | of | 3 | Attorney Docket Number | M4065.1009/P1009 | |

| | U.S. PATENT DOCUMENTS | | | | | | | |
|-----------|-----------------------|---|--------------------------------|-----------------------------|---|--|--|--|
| Examiner | Cite No.1 | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | | | |
| Initials* | | Number-Kind Code ² (if known) | | Applicant of Cited Document | | | | |
| | AA | US-6,218,718 | 4/2001 | Gregg et al. | | | | |
| | AB | US-6,304,481 | 10/2001 | Hurt | | | | |
| | AC | US-6,061,265 | 5/2000 | Hannah | | | | |
| | AD | US-5,530,263 | 6/1996 | DiVincenzo | | | | |
| | AE | US-6,052,519 | 4/2000 | Gates et al. | | | | |

| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|--------------------------|--|-----------------------------|--|---|----------------|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document Country Code ³ -Number ⁴ -Kind Code ⁵ (if known) | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear | T ⁶ |
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| | NON PATENT LITERATURE DOCUMENTS | | | | | |
|----------------------|---------------------------------|--|----------------|--|--|--|
| Examiner Initials | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² | | | |
| • | CA | A. E. BOTHA et al.; "Electron-spin polarization in symmetric type-II quantum wells from bulk inversion asymmetry" The American Physical Society, Physical Review B67, 195334 pp. 1-8 (2003). | | | | |
| ; | СВ | KRISTY A. CAMPBELL, et al.; "Parallel Polarization EPR Characterization of the Mn(III) Center of Oxidized Manganese Superoxide Dismutase" J. Am. Chem. Soc., 121, pp. 4714-4715 (1999). | | | | |
| 4 | CC | SHUNICHI FUKUZUMI, et al.; "Photochemical and Electrochemical Properties of Zinc Chlorin – C ₆₀ Dyad as Compared to Corresponding Free-Base Chlorin - C _{60,} Free-Base Porphyrin - C _{60,} and Zinc Porphyrin – C _{60,} Dyads" J. Am. Chem. Soc., 123, pp. 10676-10683, (2001). | | | | |
| | CD | L. B. GLEBOV, et al.; "Magneto-induced microwave conductivity in Mn ²⁺ - doped silicate glass" Journal of Non-Crystalline Solids 265, pp. 181-184, (2000). | | | | |
| | CE | O. KAHN, et al.; "Spin-Transition Polymers: From Molecular Materials Toward Memory Devices", Science, Vol. 279, pp. 44-48 (January 2, 1998). | | | | |
| i | CF | FATIH KOCER, et al.; "A New Approach In NanoScale Electronics: Spin-FET (Field Effect Transistor) and Spin-Based Memory Architectures," www.personal.engine.unich.edu/wpualized/spin.pdf (accessed prior to 1/29/04). | · | | | |
| ત | CG | YUJI KUBO, et al.; "Chirality-Transfer Control Using a Heterotopic Zinc (II) Porphyrin Dimer," J. Am. Chem. Soc. 123, pp. 12700-12701, (2001). | | | | |
| | СН | Physics Laboratory, "Fourier-Transform Microwave Spectroscopy for Chemical Analysis," http://physics.nist.gov/Divisions/Div844/facilities/ftmw/ftmw.html (accessed 2/24/2003). | | | | |
| | CI | QILIANG LI; "Capacitance and conductance characterization of ferrocene-containing self-assembled monolayers on silicon surfaces for memory applications," Applied Physics Letters, Volume 81, Number 8, pp. 1494-1496, (August 19, 2002). | | | | |

PTO/SB/08a/b (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
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| C | PAUL A. LIDDELL, et al.; "Photonic Switching of Photoinduced Electron Transfer in a Dithlenylethene-Porphyrin-fullerene Triad Molecule," J. Am. Chem. Soc. 124, pp. 7668-7669, (2002). |
|------|---|
| CI | S.E. LOFLAND, et al.; "Giant microwave magneto-impedance in a single crystal of La _{0.7} Sr _{0.3} MnO ₃ : The effect of ferromagnetic antiresonance," J. Appl. Phys. 80(6), pp. 3592-3594, (September 15, 1996). |
| CI | S. LUDWIG, et al.; "Direct Coupling of Magnetic Fields to Tunneling Systems in Glasses," Physical Review Letters, Volume 88, Number 7, pp. 075501-1-4, (February 18, 2002). |
| CI | |
| CI | IAN J. McNAUGHT, et al.; "Microwave Spectroscopy Tutor," http://jchemed.chem.wisc.edu/ JCESoft/Issues/Series_B/8B2/prog2-8B2.html> (accessed 2/24/2003). |
| C | A.N. Medina, et al.; "Resonant microwave cavity response of amorphous ribbons," J. Appl. Phys. 79(8), pp. 5462-64, (April 15, 1996). |
| CI | RYO MIYAMOTO, et al.; "Interplanar interactions in the triplet dimmers of Zn and metal free complexes of crowned porphyrin and phthalocyanine studied by time-resolved electron paramagnetic resonance," Coordination Chemistry Reviews, 132, pp. 57-62, (1994). |
| C | |
| CI | R.R. RAKHIMOV, et al.; "Microwave response near zero magnetic field in transition-metal-doped silicate glasses," Applied Physics Letters, Volume 76, Number 6, pp. 751-753, (February 7, 2000). |
| C | JOHN ROBBLEE; "Electron Paramagnetic Resonance" Berkeley Spectroscopy Club," http://spectroscopy.161.gov/EPR-Robblee.pdf (accessed April 18, 2001). |
| C | M.A.ROWE, et al.; "A Hyperfine Measurement in Laser Trapped Radioactive ²¹ Na," http://weak0.physics.berkeley.edu/weakint/annual.reports/1997/21Na.NSD1997.pdf (accessed prior to 1/29/04). |
| . CI | POUYA VALIZADEH; "New Approaches in Spin-Electronics: High current gain spin-based HBT and Memory application for the spin-FET," III-V Integrated Circuits and Devices Group, Solid-State Electronics Laboratory, University of Michigan (pub. date not known). |
| . C | SUNG IK YANG et al.; "Interplay of Orbital Tuning and Linker Location in Controlling Electronic Communication in Porphyrin Arrays," American Chemical Society, pp. 4008-18, (1999). |
| C | |
| C | |
| C, | U. Wimona, "Crystal Field Theory (CFT), An Introduction," http://www.chem.uwimona.edu.jm ; 1104/courses/CFT.html> (accessed 6/23/2003). |
| CZ | *BioChem, "Electromagnetic Radiation," http://biochem.unl.edu/ragsdale/EPRspectroscopy/sld002.html (accessed 7/3/2003). |

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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| | CA1 | "ESR Spectroscopy", http://www.mlib.cnr.it/marble/esr.html (accessed 7/16/2003). |
|-----|-----|---|
| | CB1 | Frontier Scientific, "Prophyrins," Frontier Scientific, |
| | | http://www.frontiersci.com/porphyrins.html (accessed 11/15/2003). |
| . (| CC1 | Net BioChem, "Porphyrins" Hemeandlron, |
| | | http://www.porphyrin.net/Heme_iron/porphyrins/_porphymain.html (accessed 11/15/2003). |
| | CD1 | U. WA, "Section 4: Metal-Ligand Interactions and "Reactions of Coordinated Ligands," |
| | | http://www.chem.uwa.edu.au/enrolled_students/2nd_year_Chem_Inorg_Section/sect4/sect. (accessed 6/23/2003). |
| | CE1 | Univ. Arizona, "Microwave Spectroscopy," |
| | | http://www.chem.arizona.edu/faculty/kuko/research/mwspec/spectra/spectra.htm (accessed 2/24/2003). |
| | CF1 | BioChem, "The Mineral Perovskite," |
| | | http://mineral.galleries.com/minerals/oxides/perovvski/perovski.htm (accessed 11/15/2003). |
| | CG1 | BioChem, "Spin-Spin Interaction," |
| | | http://biochem.unl.edu/ragsdale/EPRspectroscopy/sld032.html (accessed 7/16/2003). |
| | CH1 | U. Alabama, http://bama.ua.edu/Kshaughn/ch609/notes/3-legal survey (accessed prior to 1/29/04). |

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